REMARKS/ARGUMENTS

Present Invention and Pending Claims

Claims 2-4, 11, 13-15, 18, and 20-30 are currently pending and are directed to an adhesive sheet for microbial testing (claims 2-4, 11, 13-15, and 18), a kit for microbial testing (claims 20-24), and a method of testing for microorganisms (claims 25-30).

Amendments to the Claims

Claims 1, 9, 10, 12, 16, 17, and 19 have been canceled. Claims 2, 3, 11, and 21-23 have been amended so as to place them in independent form. Moreover, all of the pending claims have been amended to place them in a format more consistent with U.S. patent practice. Support for the claim amendments can be found in the specification at, for example, page 4, lines 27, through page 5, line 3; page 5, line 32, through page 6, line 1; page 8, lines 9-29; page 13, lines 3-15; and Examples 1, 3, and 4.

In addition, method claims 25-30 have been added and are directed to a method of testing for microorganisms. Support for these new claims can be found in the specification at, for example, the portions of the specification cited above and the originally filed claims.

No new matter has been added by way of these claim amendments.

Summary of the Office Action

Claims 11 and 23 (mistakenly referred to as claim 22 in the Office Action) have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Specifically, the Examiner has objected to the phrase "printed pattern with a color variation in the image" used to define the focusing marker.

Claims 1-4, 9-10, 12-17, 19-22, and 24 have been rejected under 35 U.S.C. § 103(a) as allegedly obvious over Japanese Patent Application Publication 2002-142797 (Takeshi et al.) in view of U.S. Patent 5,812,312 (Lorincz). Similarly, claims 11, 18, and 23 have been

rejected under 35 U.S.C. § 103(a) as described above in further view of U.S. Patent 5,085,937 (Herauf).

Reconsideration of the pending claims is respectfully requested.

Discussion of the Indefiniteness Rejection

According to the Examiner, the phrase "printed pattern with a color variation in the image" recited in claims 11 and 23 is indefinite. Applicants traverse the indefiniteness rejection for the reasons provided below.

The focusing marker of the present invention is incorporated to simplify and expedite the focusing of optical equipment (e.g., a microscope) so as to allow for real time automated imaging of the microorganisms collected on an adhesive sheet. Accordingly, the focusing marker must be clearly distinguished from the background in the field of view of the optical equipment. If the focusing marker were not clearly distinguished from the background view, unsatisfactory focusing (and, thus, microorganism imaging) would result. Therefore, as described in the present application (see page 8, lines 9-29), the focusing marker should have a shape permitting distinction from the background (e.g., a pattern of lines, lattices, dots, etc.), a differing color from the background (i.e., a color variation), or a combination of a distinctive shape and differing color. To this end, the phrase "printed pattern with a color variation in the image" recited in pending claims 11 and 23 is definite and clearly describes a printed pattern which can be distinguished from the background in the field of view of optical equipment.

Nonetheless, Applicants have amended pending claims 11 and 23 to better define the focusing marker as discussed above. Accordingly, the indefiniteness rejection is moot and should be withdrawn.

Discussion of the Obviousness Rejections

The subject matter of the pending claims allegedly is obvious in view of the combined disclosures of the Takeshi and Lorincz references and in further view of the Herauf reference. Applicants traverse the obviousness rejections for the reasons stated below.

A. Japanese Patent Application Publication 2002-142797 (Takeshi et al.)

The Takeshi reference is directed to a microbial testing method wherein microorganisms in an adhesive layer are dyed so they can be detected (see the abstract). According to the Office Action, the Takeshi reference discloses a multilayer pressure sensitive adhesive sheet and a kit for microbial testing which read upon some of the components and properties required by the pending claims. However, as acknowledged in the Office Action, the Takeshi reference fails to teach or suggest a focusing marker, as required by all of the pending claims.

B. U.S. Patent 5,812,312 (Lorincz)

The Lorincz reference is directed to an improved self-staining microscope slide adapted for supravital staining and viewing of cells in a biological sample or tissue sample (see column 1, lines 61-64). According to the Office Action, the Lorincz reference allegedly discloses microscope slides containing reference standards (e.g., fluorescent microspheres) utilized to facilitate microscope focusing and to allow measurements of cells and microorganisms. The Office Action contends that the reference standards disclosed in the Lorincz reference are analogous to the focusing marker required in the present invention.

The adhesive sheet of the present invention, as defined by pending claims 2 and 21, and as referenced in the method of claim 25, contains a multilayer that can be the substrate or the adhesive. The multilayer includes a layer comprising a focusing marker and a layer free of the focusing marker. As demonstrated in Example 1, Example 3, and Example 4 of the present application, when a focusing marker is incorporated into a multilayer structure, increased microbial collection, and, therefore, superior imaging, can be achieved. In contrast to the layered structure of the present invention, the fluorescent microspheres used in the microscope slides of the Lorincz reference are applied to the "surface of the slide or the film" (column 4, lines 32-39). Accordingly, the Lorincz reference does not teach or suggest a focus marker which is contained within a substrate or adhesive multilayer as recited in pending claims 2, 21, and 25 (and the claims dependent thereon).

Furthermore, the adhesive sheet of the present invention, as defined by pending claims 3 and 22, and as referenced in the method of claim 25, requires a focusing marker

comprising an insoluble particle with an average size of 2.0-200 μm. However, the only disclosure as to fluorescent microsphere size in the Lorincz reference is 1 μm, a size that falls outside the claimed range. As such, the Lorincz reference fails to teach or suggest a focusing marker which comprises the insoluble particle recited in pending claims 3, 22, and 25 (and the claims dependent thereon).

Moreover, even if the Lorincz reference could be construed as teaching the focusing marker location and particle size of the present invention, Applicants assert that, in contrast to the Examiner's allegation, the fluorescent microspheres disclosed in the Lorincz reference are not analogous to the insoluble particles recited in pending claims 2, 3, 21, 22, and 25. The Lorincz reference does not contain any teaching or suggestion that the disclosed fluorescent microspheres are insoluble, such as, for example, the calcium carbonate or cellulose powder particles employed in the present invention (see the Examples of the present application). As such, the Lorincz reference additionally does not teach the insoluble particles required by pending claims 2, 3, 21, 22, and 25 (and the claims dependent thereon).

As such, the Lorincz reference does not teach or suggest a focusing marker (a) contained within a substrate or adhesive multilayer, (b) with a particle size of 2.0-200 μm, or (c) comprising insoluble particles as recited in pending claims 2, 3, 21, 22, and 25 (and the claims dependent thereon). The Lorincz reference, therefore, does not remedy the deficiencies of the Takeshi reference.

C. U.S. Patent 5,085,937 (Herauf)

The Herauf reference is directed to an adhesive tape with a grid for measuring the amount of particles that have settled on a surface (column 1, lines 11-16). According to the Office Action, the Herauf reference remedies the deficiencies of the Takeshi and Lorincz references by allegedly disclosing a printed grid pattern composed of black ink that reads upon the focusing marker with a color variation as recited in pending claims 11, 23 and 25 (and the claims dependent thereon).

However, the printed grid pattern on the tape of the Herauf reference is not a focusing marker. The Herauf reference does not contain any teaching or suggestion that the disclosed grid pattern can be used to facilitate focusing. Instead, the Herauf reference teaches that the

grid pattern is used for separating the measurement area into squares to make counting the collected particulates easier and to reduce errors due to parallax (column 1, line 61, through, column 2, line 30, and column 3, lines 34-38). Indeed, the only disclosure the Herauf reference makes regarding a structure which could be considered a focusing marker relates to a legend or reference scale (column 4, lines 25-28), and no shape or color variation details are provided. Accordingly, the Herauf reference does not teach the focusing marker with a color variation as recited in pending claims 11, 23, and 25 (and the claims dependent thereon).

Furthermore, the Herauf reference also does not disclose a focusing marker (a) contained within a substrate or adhesive multilayer, (b) with a particle size of 2.0-200 μm, or (c) comprising insoluble particles as recited in the pending claims 2, 3, 21, 22, and 25 (and the claims dependent thereon). The Herauf reference, therefore, does not remedy the deficiencies of the Takeshi and Lorincz references.

D. Combination of References

As discussed above, the Takeshi, Lorincz, and Herauf references, either alone or in combination, do not teach or suggest all of the elements of the adhesive sheet and kit for microbial testing and the method of testing for microorganisms of the present invention as defined by the pending claims.

Moreover, there is no teaching or suggestion in any of the Takeshi, Lorincz, or Herauf references to modify their respective disclosures in the manner necessary to provide the present invention as defined by the pending claims. Indeed, without at least recognizing the associated benefits (e.g., real time monitoring for the presence of microorganisms, accommodation of automated focusing, etc.), one of ordinary skill in the art would not be motivated to modify the teachings of the references in order to arrive at the adhesive sheet, kit, and method of the present invention. In view of this lack of motivation, as well as the failure of the Takeshi, Lorincz, and Herauf references to disclose or suggest all of the elements of the pending claims, the present invention as defined by the pending claims must be considered unobvious in view of the references, even if the references are considered in combination. Accordingly, the obviousness rejections based on the Takeshi, Lorincz, and Herauf references should be withdrawn.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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